

Tracking Num: AS10-AS101-13

Title: Preliminary multivariable cost model for space telescopes

Primary Author: H. Philip Stahl

Author Preferred Presentation Type: Oral Presentation

Abstract Text:

Parametric cost models are routinely used to plan missions, compare concepts and justify technology investments. Previously, the authors published two single variable cost models based on 19 flight missions. The current paper presents the development of a multi-variable space telescopes cost model. The validity of previously published models are tested. Cost estimating relationships which are and are not significant cost drivers are identified. And, interrelationships between variables are explored.

Tracking Num: AS10-AS101-15

Title: ATLAST-8 mission concept study for 8-meter monolithic UV/optical space telescope

Primary Author: H. Philip Stahl

Author Preferred Presentation Type: Oral preferred, but poster acceptable

Abstract Text:

ATLAST-8 is an 8-meter monolithic UV/optical/NIR space observatory to be placed in orbit at Sun-Earth L2 by NASA's planned Ares V cargo launch vehicle. ATLAST-8 will yield a broad range of astronomical breakthroughs. This paper summarizes the results of a mission concept study which developed detailed point designs for the optical telescope assembly and spacecraft. Specific study areas included optical design, structural design, thermal performance and control, pointing control, wavefront sensing and control, spacecraft design, momentum management, mass and power budgets, etc. For the optical design, both on-axis and off-axis configurations were examined. ATLAST-8 is specifically designed to be serviceable.